

WHAT IS CLAIMED IS:

- 5 1. A pigment dispersant system comprising:
water;
a polymeric pigment dispersant, the dispersant not having a binder;
a primary amine; and,
a defoamer.
- 10 2. The system of claim 1, wherein the water is deionized water.
3. The system of claim 1, wherein the primary amine is ammonium
hydroxide.
- 15 4. The system of claim 3, wherein the primary amine is aqua
ammonia 26% ammonium hydroxide.
5. The system of claim 4, wherein the defoamer is isobutyl
isobutyrate.
- 20 6. The system of claim 5, wherein the polymeric pigment dispersant
is a hyperdispersant.
7. The system of claim 1, wherein the polymeric pigment dispersant
25 is chosen from the group comprising: an approximately 90% active polymeric dispersant,
an approximately 100% active polymeric dispersant, an approximately 50% active
polymeric dispersant, and an approximately 40% active polymeric dispersant.
8. The system of claim 1, wherein the dispersant further comprises an
30 active synergist agent.

9. A solvent-based pigment dispersant system, the system comprising:

- 5 a hydrocarbon solvent;
a polymeric pigment dispersant, the dispersant not having a binder; and,
a solvent compatible amine.

10 10. The system of claim 9, wherein the hydrocarbon solvent is chosen from the group comprising: acetates, ketones, and aromatics.

11. The system of claim 10, wherein the hydrocarbon solvent is n-butyl acetate.

15 12. The system of claim 9, wherein the polymeric pigment dispersant is chosen from the group comprising: an approximately 90% active polymeric dispersant, an approximately 100% active polymeric dispersant, an approximately 50% active polymeric dispersant, and an approximately 40% active polymeric dispersant.

20 13. The system of claim 12, wherein the solvent compatible amine is diethylamine.

14. The system of claim 13, wherein the system further comprises an active synergist agent.

25 15. A method for making a pigment dispersant system, the method comprising the steps of, in order:

- mixing 55.982% by weight deionized water, 0.372% by weight isobutyl isobutyrate, and 2.896% by weight of a polymeric pigment dispersant, without a binder;
30 adding into a constant vortex 22.683% by weight of a low surface area carbon

black and 17.376% by weight kaolin clay;

adding 0.691% by weight aqua ammonium 26% ammonium hydroxide;

mixing in a high-speed mixing system all of the above components; and,

rinsing with deionized water and ammonium hydroxide.

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16. A method for making a pigment dispersant system, the method comprising the steps of:

mixing water, a defoamer, and a polymeric pigment dispersant, without a binder;

adding to a vortex carbon black and a rheology modifier;

10 adding a primary amine;

mixing in a high-speed mixing system all of the above components; and,

rinsing with water and a primary amine.

17. The method of claim 16, wherein the water is deionized water, the
15 defoamer is isobutyl isobutyrate, and the polymeric pigment dispersant is chosen from the group comprising: an approximately 90% active polymeric dispersant, an approximately 100% active polymeric dispersant, an approximately 50% active polymeric dispersant, and an approximately 40% active polymeric dispersant.

20 18. The method of claim 17, wherein the carbon black is a low surface area carbon black and the rheology modifier is a pigmented kaolin clay.

19. The method of claim 16, wherein the primary amine is ammonium hydroxide.

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20. The method of claim 19, wherein the primary amine is aqua ammonium 26% ammonium hydroxide.

21. The method of claim 18, wherein the water, defoamer, pigment
30 dispersant, carbon black, kaolin clay, and ammonium hydroxide are added in

synergistically effective amounts.

22. The method of claim 21, wherein mixing in a high-speed mixing system all of the above components further comprises the step of:

5 mixing in a tank and cowles blade high-speed mixing system all of the above components at between approximately 3500 to approximately 4000 rpm.

23. A method for pigment grinding, the method comprising the steps of:

10 making a pigment dispersant system, the system being made by a method comprising:

mixing water, a defoamer, and a polymeric pigment dispersant, without a binder;

15 adding to a vortex carbon black and a rheology modifier;
adding a primary amine;
mixing in a high-speed mixing system all of the above components; and,
rinsing with water and ammonium hydroxide; and,

mixing a pigment with the pigment dispersant system, the pigment and pigment dispersant system being mixed in a high-speed mixer.

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24. The method of claim 23, wherein mixing a pigment with the pigment dispersant system, the pigment and pigment dispersant system being mixed in a high-speed mixer further comprises the step of:

25 mixing a pigment with the pigment dispersant system, the pigment and pigment dispersant system being mixed in a high-speed mixer at a speed capable of overcoming the Van der Waals force.

25. The method of claim 24, wherein mixing a pigment with the pigment dispersant system, the pigment and pigment dispersant system being mixed in a high-speed mixer further comprises the step of:

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mixing a pigment with the pigment dispersant system, the pigment and pigment dispersant system being mixed in a high-speed mixer at between approximately 1300 to approximately 2300 rpm.